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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700.006	11/03/2003	Donald W. Verser	210331US (CPCM:0019/FLE)	3672
7590	04/20/2005		EXAMINER DOROSHENK, ALEXA A	
Michael G. Fletcher Fletcher Yoder P. O. box 692289 Houston, TX 77269-2289			ART UNIT 1764	PAPER NUMBER

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/700,006

Applicant(s)

VERSER ET AL.

Examiner

Alexa A. Doroshenk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-18,20-22,24-41 and 43-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-18,20-22,24-41 and 43-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure continues to be objected to because of the following informalities:  
The status of the related applications should be updated as they are both now patented applications.

Appropriate correction is required.

### *Drawings*

2. The drawings were received on November 29, 2004. These drawings are acceptable.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim<sup>§</sup>47 and 48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner has not found in the specification where it is disclosed that the step of recycling comprises recycling 60 to 95 weight percent of the recovered hydrocarbon liquid to the polymerization reactor without

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fractionation or transporting 2 to 25 weight percent of the recovered hydrocarbon liquid to a fractionation system.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3, 6-8, 16, 18, 20-22, 26-28 and 37-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 16 recite the limitation "the extrusion zone" in lines 1-2 of the claims. There is insufficient antecedent basis for this limitation in the claims. Since no "extrusion zone" has been positively recited the scope of the claims cannot be determined.

Claims 6-8, 18, 20-22, 26-28 and 37-41 are indefinite. Claims 1, 15, 25 and 36 each positively recite that there is no fractionating from the recycle zone and yet claims 6-8, 18, 20-22, 26-28 and 37-41 then recite that there is a fractionating zone from the recycle zone. Is there or isn't there a fractionating zone? The scope of these claims cannot be determined.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 46 is rejected under 35 U.S.C. 102(b) as being anticipated by Hanson (5,597,892).

Hanson discloses a method comprising:

processing effluent (22) of a polymerization reactor (10) by separating the liquid from the solids in the effluent by flashing (via 28) to generate hydrocarbon vapor (30);

transporting and condensing the vapor (via 38) to form a recovered liquid (in tank 42); and

recycling at least a portion of the recovered liquid (via 16) to the polymerization reactor (10) without fractionating the liquid (see figure 1).

***Claim Rejections - 35 USC § 103***

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 1, 2, 5, 9-15, 17, 24, 25, 29-36 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanson (5,597,892) in view of Howard et al. (5,533,437).

With respect to claims 1, 15, 25 and 36, Hanson discloses a method and apparatus comprising:

processing slurry (22) of a polymerization reactor (10) by separating the liquid from the solids in the effluent by flashing (via 28) to generate hydrocarbon vapor (30);

transporting and condensing the vapor (via 38) to form a recovered liquid (in tank 42); and

recycling at least a portion of the recovered liquid (via 16) to the polymerization reactor (10) without fractionating the liquid (see figure 1).

Hanson fails to disclose wherein the solid particles from the intermediate (flash) zone are sent to a purge zone.

Howard et al. discloses a polymerization process and apparatus and teaches wherein it is valuable to purge the particles from a polymerization reaction and recover separated hydrocarbons from a purge zone to recycle to the polymerization reactor as well as recycle separated purge gas to be reused in the purge zone (col. 4, lines 52-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Howard et al. to send the particles of Hanson to a purge zone to stop the polymerization reaction and recycle the streams from a purge zone in order to make use of those products as well as achieve an efficient system.

With respect to claim 2, Howard et al.'s teaching of recycling the purge gas back to the purge zone (col. 4, lines 52-57) would read on passing the recovered stream to a closed loop transfer zone.

With respect to claims 5 and 17, Howard et al. teaches wherein recovered hydrocarbon is recycled to the reaction zone (col. 4, lines 52-57).

With respect to claims 10-13 and 30-33 Howard et al. discloses wherein the recovered purge stream is "high purity purge gas" (col. 4, lines 54-58).

With respect to claims 14 and 34, Howard et al. discloses wherein the purge stream is nitrogen and the hydrocarbon comprises diluent (col. 4, lines 43-52).

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With respect to claims 9, 24, 29 and 43, Howard et al. does not teach wherein the recovery unit is connected to a purge gas flare.

With respect to claim 35, Howard et al. discloses wherein the purge stream can comprise particles and therefor would act as a motive force (col. 4, lines 43-53).

11. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanson (5,597,892) in view of Howard et al. (5,533,437), as applied to claims 1 and 15 above, and further in view of Perry (3,869,807).

The modified apparatus of Hanson discloses all of the process and structure as discussed above, but fails to disclose an extrusion feed zone.

Perry also discloses a transfer means for the solids of a polymerization process (col. 1, lines 10-17). The process of Perry also teaches a flash tank (7) followed by a purge zone (4) and further teaches an extruder in a sealed (col. 3, lines 5-15) connection to the purge zone (4) (see figure) so that both solids and gases would transfer to the extruder. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further provide an extruder to the modified Hanson et al. in order to make use of the products of the system.

### ***Response to Arguments***

#### **Specification**

Applicant, while fixing some of the issues in the first paragraph of the specification, has not updated the status of the now patented US applications.

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Drawings

The objections to the drawings are withdrawn due to applicant's amendments to the figures and specification.

35 USC 112, second paragraph

The 35 USC 112, second paragraph rejection of claims 20-22 for the reasons presented in the previous Office Action have been withdrawn due to applicant's amendments to the claims. It is noted that new 35 USC 112, second paragraph rejections have been made above with regard to these same claims.

35 USC 103

Applicant states that the cooler of Kreischer et al. does not condense the vapor from the flash tank, but only cools it (not to the point where it is condensed) in order to be fed to the compressor.

The examiner agrees and has presented a new grounds of rejection above.

**Conclusion**


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Alexa A. Doroshenk  
Primary Examiner  
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